HRSA Part B

Priority Area #1: Administration

I. *Program Direction*

Leadership is provided at the Massachusetts Department of Public Health (MDPH) under the direction of Christine Ferguson, JD, Commissioner of the Massachusetts Department of Public Health (MDPH), and three senior level assistant commissioners with experience in emergency preparedness and response who direct the bioterrorism preparedness and response program: Alfred DeMaria, MD, Ralph Timperi MPH, and Nancy Ridley, MS. Nancy Ridley is the Principal Investigator for the HRSA Cooperative agreement; Dr. DeMaria and Ralph Timperi are the Co-Principal Investigators for the CDC cooperative agreement.

The MDPH will continue to serve as the lead agency in a broad-based coalition of agencies, organizations, and individuals to strengthen and maintain health-care related disaster response capabilities, including for terrorist events. Currently, there are five (3 full-time and two half-time) dedicated MDPH staff funded from the HRSA Hospital Preparedness Cooperative Agreement, including the Hospital Preparedness Coordinator and the Emergency Preparedness Program Medical Director who will continue to provide guidance and technical support to the program. This application requests the addition of five additional staff, one of whom has been identified as a half-time consultant and serve in the capacity of Special Needs Populations Pediatrician. Approval of this plan will result in ten individuals on staff, three of whom are supported half-time from HRSA funds. Additional efforts will continue to focus on maximizing healthcare facility surge capacity (addressed in the surge capacity section) and the integration of healthcare facilities into the public health and general emergency response systems.

Hospital Preparedness Coordinator:
This senior level, full-time position will continue to be dedicated to hospital bioterrorism planning and coordination. Glynnis LaRosa, RN, MPH, CPHQ has been in this position since October 1, 2002. She is a registered nurse with a master's degree in Public Health. Glynnis is also a Certified Professional in Healthcare Quality (CPHQ). Ms. LaRosa possesses clinical nursing experience in both the acute and long-term-care hospital settings. She also has experience in hospital administration and knowledge of overall hospital and health care systems. Ms. LaRosa has attended training during the past seven months in her new role which include exercises and tabletops to expand her knowledge in the area of Emergency Preparedness and Response, most recently attending the U.S. Public Health Service "Health Care Leadership and Administrative Decision-Making in Response to WMD Incidents at the Nobel Training Center in Anniston, Alabama April 7-10, 2003. Ms. LaRosa has worked closely over the past seven months with the HRSA Medical Director. She has effectively communicated, coordinated and mediated among various groups (which include but are not limited to the three Massachusetts MMRS's, our acute care hospitals, and various other work groups).

Medical Director:
Jonathan Burstein, MD has been in this half-time position since November 3, 2002.
Jon has worked closely with the Hospital Preparedness Coordinator described above to provide guidance and technical support to the implementing partners (hospitals and others). Jon is responsible for providing medical direction, expertise, and advice to the Massachusetts Hospital Bioterrorism Preparedness Program. Dr. Burstein has an extensive background in emergency preparedness, hospital management, infectious diseases, and emergency medicine. As of January 2003, he also became the half-time Medical Consultant for the CDC Bioterrorism Preparedness Program. The Medical Director assists in the analysis of benchmarks for the needs assessment, as

well as, act as a consultant to MDPH in surveillance systems, mass casualty events, and infection control. He also serves as the State EMS Medical Director.

Special Needs Populations Pediatrician
This half time pediatrician consultant Dr. Paul Geltman, M.D. will work with pediatric providers to identify and develop responses for children with histories of trauma or post-traumatic stress disorder and are at risk for re-traumatization (including immigrant children).

Special Needs Populations Disaster Preparedness Coordinator (to be hired)
This FTE position to be hired will work with DPH maternal child health staff, special needs health staff, school health staff and community providers to identify health care practitioners willing to participate in local disaster teams to evaluate and treat pregnant women and children during and after disasters. The coordinator will work with medical home practices to identify children with significant special needs, assist families in developing disaster preparedness plans and obtaining medications, treatment, equipment and supplies. This position will provide technical assistance and support in the development of disaster plans for individuals and groups within special populations.

Regional Planner IV (to be hired)
This position to be hired will facilitate hospital and other health care entities' emergency preparedness and response planning. Responsibilities include the development and operation of a regional system of emergency preparedness programs and activities by overseeing planning, coordination of special projects, and other initiatives. Extensive regional collaboration with hospitals and various other health care entities as well as local, state and federal agencies in order to maximize the effectiveness of bioterrorism preparedness planning and response activities. This position will work in concert with the regional health educators and local regional planners who are funded in the CDC Cooperative Agreement.

Communications and Information Technology Coordinator
Dana D'Eramo, MPA has been at the Department of Public Health since 1995 and in the position of Information Technology Coordinator since August 2002. Her responsibilities include the planning and implementation of an interoperable statewide communications system. Dana has assisted in the coordination of a statewide hospital communications plan that will incorporate wireless and radio communications, the Government Emergency Telecommunications Service and the Health Alert Network. She has also developed the Emergency Preparedness and Response Advisory Committees website (www.state.ma.us/dph/bioterrorism/advisorygrps/), established email listservs and coordinated statewide conference calls. In addition, she is working to implement a geographic information system (GIS) to assemble, store, manipulate and display geographically referenced information regarding hospital emergency preparedness.

Administrative Assistant
Sandra Jordan has been functioning as the program Administrative Assistant since August 2002. Sandy helps to support the daily operations of the Emergency Preparedness and Response program. Responsibilities include coordination of the master calendar for advisory and other program meetings; coordinating production of major federal reports and correspondence; liaison between program staff and consultants in order to exchange information and effectively problem-solve. She coordinates travel logistics and provides general administrative support.

Grant Management Coordinator
Jane Guilfoyle is new to the Emergency Preparedness and Response Program: she started working for MDPH in April 2003. Ms. Guilfoyle's half-time position is responsible for

coordinating grants management activities including monitoring and overseeing contracts established for bioterrorism response planning efforts. Additional responsibilities include procurement, purchasing and financial management of HRSA bioterrorism planning programs.

Contract Specialist (to be hired)
This full time position will be responsible for preparing bids, executing contractual agreements with successful vendors, oversight of the contracts established for bioterrorism response planning efforts. Responsibilities include procurement, execution of contractual documentation for services purchased to implement bioterrorism programs.

Accounting/Accounts Payable Specialist (to be hired)
This full time position will be responsible for the accounting of HRSA Hospital Preparedness funds, including responding to ad hoc requests for information. Working in concert with the Contract Specialist, this position will provide accounting functions and related work products and account for spending by vendors providing services for bioterrorism programs.

Note: The following two positions (which are being funded from the HRSA FFY 2003 20% advance) will provide direct training and hazard response services to hospital and EMS personnel:

Public Health Liaison to Hazardous Materials and Field Response for Bioterrorism and Public Health Emergencies (to be hired)
This full-time position will be an employee of the MDPH, but will be assigned to the Massachusetts Department of Fire Services (DFS) HazMat Program. In general, the incumbent will act as liaison between MDPH and DFS for the purpose of developing, reviewing, and updating plans and procedures for regional and local emergency responders in the event of a bioterrorism event.

Public Health Training Liaison (to be hired)
This full-time training position will be an employee of MDPH but will be assigned to the Massachusetts Department of Fire Services (DFS). The incumbent will provide hospital emergency incident command (HEICS), PPE and decontamination training, to hospitals and EMS personnel.

II. *Financial Accountability*

Critical Benchmark #1: *Develop and maintain a financial accounting system capable of tracking expenditures by priority area, by critical benchmark, and by funds allocated to hospitals and other health care entities.*

The Commonwealth of Massachusetts, under this grant application will be in receipt of $8,653,180 awarded for a one year time period beginning August 31, 2003 through August 30, 2004. As detailed in the ensuing pages, and as reflected on Appendix C, spending is allocated by priority area, by critical benchmark as required to meet the goal of the initiative. As the guidance directs, please see Appendix C (Line Item Budget Template) for the appropriate form on which Massachusetts has completed this benchmark and is incorporated as directed to demonstrate compliance with this benchmark.

As Appendix C indicates, awards for implementation of initiatives as requested in subsections E and F, the anticipated funding will be allocated to achieve the objectives of the cooperative agreement while remaining in compliance with this benchmark. Direct awards as requested in

subsection E would provide funds to the following entities: Massachusetts/Rhode Island Regional Poison Control Center, the Commonwealth of Massachusetts Departments of Fire Services and Mental Health. By virtue of direct award to these entities, funding will be pre-identified and, therefore, expenditures shall be in compliance with this initiative. For the remainder of the funding contractual relationships will be established as outlined in subsection F of Appendix C. Expenditure tracking as required will be ongoing for all spending categories in compliance with this benchmark.

History of Expenditures – Update

The Commonwealth of Massachusetts, Massachusetts Department of Public Health (MDPH) has received to date one award through HRSA for Hospital Preparedness that totals $2,709,678. MDPH has just received notice of grant award for a 20% advance of FFY03 HRSA Cooperative Agreement funding in the amount of $2,033,000. Recent receipt of the award notice allocates to MDPH a total of $4,742,678 in HRSA Hospital Preparedness Cooperative Agreement Funds to be expended for FFY02 approved activities. Plans have been completed for the expenditure of these two funding sources, and implementation of several initiatives can now begin. Reference to initiatives to be completed from expenditure of funds from these two funding sources (FFY02 and FFY03 20% advance) is provided by priority planning area within the application that follows. Expenditure of these funds will allow implementation to proceed and achieve the goals of surge capacity at acute hospitals and other health care entities, medications and vaccines, personal protective equipment/decontamination and training for usage of these materials, emergency medical services, hospital/emergency communications equipment and systems, and staffing. Where funding sources overlap from FFY02 and FFY03 20% advance, for initiatives being applied for in the following pages, the specifics are identified within each narrative section by priority planning area.

Priority Area #2: Regional Surge Capacity for the Care of Adult and Pediatric Victims of Terrorism

Massachusetts has worked over the past year to create a solid foundation for regional surge capacity. The MDPH, the Mass Hospital Association (MHA), the EMS community and other representatives of the healthcare community will continue to work collaboratively to address this Priority Planning area. A statewide multidisciplinary Surge Capacity workgroup was formed in the Fall 2002 and has been meeting on a regular basis.

A hospital needs assessment was conducted by the MHA and results were released in October 2002. Overall results were reported to MDPH and have been used by the Surge Capacity workgroup for planning (See HRSA semiannual HRSA progress report 11/1/02). This survey provided initial data results which Massachusetts has been using to begin to address identified needs. MDPH is in the process of conducting a more comprehensive and global needs assessment under the CDC cooperative agreement. Surge capacity and other priority planning areas will be re-assessed in this statewide survey, and specific targeted updates of the 2002 Hospital survey will also be undertaken during the next year.

During this past year Massachusetts worked to assess and establish a system that allows for the triage, treatment and disposition of adult and pediatric patients. Under last year's HRSA cooperative agreement the goal was to accommodate surge for 500 acutely patients per region. In Massachusetts we were preparing for a surge of 500 patients in each of our six hospital planning regions, which approximates well to this year's benchmark. The map that shows the regional structure is attached as Cross Cutting Attachment 3. Each region has designated a volunteer to work with MDPH to promote regional planning in each of the six regions. Each region has committed and has been holding meetings to further address specific surge capacity issues within their region. MDPH (the Medical Director and the Hospital Preparedness Coordinator) and MHA staff have been attending these regional meetings to further support the regional hospital planning process. In addition, under the CDC cooperative agreement health educators have been hired for each of the BT planning regions. The Health Educators are working on training and education initiatives related to: the prevention and control of vaccine and non-vaccine preventable communicable disease, initiatives related to bioterrorist preparedness and response activities with local boards of health, hospitals, healthcare providers, emergency response personnel and other key public heath partners. These health educators are attending the hospital-planning meetings in their regions to further enhance and expand the regional planning process. The CDC agreement is being used to fund regional local health planners who are currently being hired. These regional planners will be responsible for extensive regional collaboration with local boards of health, hospital and various other local, state and federal agencies in order to maximize the effectiveness of bioterrorism preparedness planning and response activities in Massachusetts.

MDPH had tasked MHA this past year with the development of an advisory and communication mechanism for hospitals. Frequent MHA advisories have been sent out to hospitals on surge capacity planning issues. There were seventeen (17) Emergency Preparedness Advisories that were distributed in 2003.

For HRSA Priority Area 2 Regional Surge capacity benchmarks, a total of $4,338,213 of the HRSA 80% FFY 2003 funds will be allocated to hospitals via a MDPH Memorandum of Understanding (MOU). The MDPH has developed a formula to distribute funding to 75 acute care hospitals, including those with unique capabilities (such as orthopedics and isolation). We have drafted the MOU that will be signed by each of the hospitals in the region to ensure that

funds are applied to the HRSA deliverables as well as to enhance the regional planning process that is already underway.

Using this same formula we have developed a distribution proposal for the remainder of FFY02 funds ($835,000) as well as $773,000 from the 20% advance funds. This totals $1,608,000 that we propose to allocate to hospitals now that we have received the FFY 2003 HRSA Advance Notice of Grant Award. Specific funding disbursements will be determined regionally based upon a review of regional survey data and benchmarks established on a statewide basis by BT workgroups established during the past year. This will enable hospitals to continue to expand upon what they are working on currently.

The new grant will allow further development of regional plans this year for initiatives such as:

- Pharmaceutical stockpiling
- PPE purchase
- Hospital MCI plan implementation
- Hospital MDU units
- Hospital Patient Surveillance and Tracking
- Hospital laboratory enhanced capability e.g. surveillance
- Communication enhancements
- Develop a template to capture common data elements for hospital bed capacity, including isolation beds, which will be updated periodically

The plan for this year will be to continue the work that has already begun in this area. We will be expanding our focus beyond the 75 acute care hospitals to all acute care hospitals, the four state owned DPH hospitals, chronic and rehabilitation and specialty hospitals, and long term care facilities and Skilled Nursing facilities (SNFs). We plan to continue our close work with the Metropolitan Medical Response Systems in Boston, Worcester, and Springfield; the Wampanoag tribe; and those entities that already play a major role in field surge planning and response and closely coordinating patient distribution plans with the hospitals within their jurisdiction. We plan to support and continue these very productive relationships.

Hospitals with emergency departments will continue be organized into regional planning entities, which will allow for coordinated planning for mass casualty events. These regional planning bodies will consist of hospital-assigned representatives and other appropriate personnel (e.g. fire, police, EMS, and public health representatives from the region). Regional plans will be developed, implemented, tested, and modified, and we will maintain an up-to-date regional response plan that includes protocols for mass casualty care and distribution. Hospitals will execute mutual-aid memoranda of understanding for staff, supplies, pharmaceuticals, and other support within a region. Hospitals will be part of a rapid real-time communication system that enable them to report bed status and availability, share information on patient volume, provide resources to each other, and request resources from each other within state hospital regions, from other regions within the state, and from the state itself. Specialty services such as pediatric, orthopedic and toxicological capabilities will be incorporated into both regional and statewide planning. Community health services and centers and secondary hospitals facilities will be incorporated into planning as both primary care and overflow care sites.

I. *Hospital Bed Capacity*

Critical Benchmark 2-1: *Establish a system that allows the triage, treatment, and disposition of 500 adult and pediatric population patients per 1,000,000 population (or no fewer than 500 patients per awardee jurisdiction) with acute illness or trauma requiring hospitalization for a*

biological, chemical radiological or explosive incident. The plan must account for the operational and physical needs of special populations such as people with disabilities, pregnancy woman, children, the elderly, and those with special health needs. (Refer to Special Needs Section Cross Cutting Section F)

To achieve this goal, MDPH will implement plans to establish a regional system capable of triage and treatment for 3000 adult and pediatric patients - 500 patients for each of the six hospital planning regions. To accomplish this, the following activities will be undertaken:

1) MDPH MOU**:** Continue Memorandum of Understanding (MOU) development within the designated hospital regions and between hospitals, regions, and MDPH to allow for rapid inter-facility shifting of patients to meet capacity surges. As part of this effort, MDPH will support regional hospital meetings and interactions. Funding will be provided for hospitals to increase their capacity to plan protocols for managing unexpected surges of patients in the aftermath of a terrorist event or natural disaster, to include support of hospital planning efforts, training, and equipment purchases, and local exercises. Funds to be distributed to hospitals under previously established formulas and MOU's will updated as needed.

2) Communications**:** Maintain and expand the communication system being developed for bed-count and surge redistribution. Maintain and update the emergency contact list.

3) Smallpox/Risk Communication Coordination**:** Support smallpox/risk communication coordinator positions at hospitals from CDC smallpox cooperative agreement funding to be distributed to hospitals through an MDPH hospital MOU contract process.

4) Poison Control Center**:** Develop and support the specific terrorism-response functions of the regional (MA-RI) Poison Control Center.

   MDPH proposes to fund an enhanced the terrorism-response role of Regional Center for Poison Control and Prevention serving Massachusetts and Rhode Island. This Poison Control Center (PCC) provides services to the 6 million citizens of Massachusetts, the 1 million inhabitants of Rhode Island, and the hospitals and health care facilities in these states. The Center's 24-hour hot line provides immediate assistance to the general public and to health care practitioners in diagnosing and treating victims of poisoning and other toxic exposures. Specially trained pharmacists, nurses, and physicians provide poisoning emergency assessment and triage, medical case management and emergency planning and management. Moreover, the medical toxicologists that serve as consultants to the MA/RI PCC already have extensive training in medical response to chemical terrorism.

   The current PCC services - hotline, training, expert consultation, public response will be enhanced in order to meet an expanded need. The following specific activities have been identified:

   - Further development and promotion of the MA/RI PCC as a clearinghouse to serve as: (1) a receiving site for questions, information and exposure data from the public as well as health professionals, and (2) a vehicle that can effectively transmit data to the public, health professionals and public health officials.

   - Enhanced education and training of the MA/RI PCC specialists in principles of consequence management of bioterrorism including recognition, treatment, reporting and prophylaxis.

- Antidote inventory development: The MA/RI PCC has already established a list of the locations and quantity of all antidotes available in the state of Massachusetts through its ongoing surveys of hospitals and other health care facilities; such an inventory is needed in Rhode Island as well, to provide further access to such supplies for needs in Massachusetts as well as RI. This activity would be enhanced to begin the development of the system to maintain a current list of available supplies of antidotes as part of a dynamic terrorism preparedness program. In addition, the PCC can provide health care providers education on dosing, side effects, and routes of administration during the initial call from the healthcare provider to locate these antidotes.

- Begin the development of a reporting tool to permit the MA/RI PCC real-time conveyance of detailed epidemiological data to all public health organizations conducting illness surveillance. Currently data trends are only reported to the city of Boston.

These enhancements will not only provide new and permanent improvements in bioterrorism preparedness but will also improve public health capacity to effectively respond to other public health critical incidents.

5) Other Outpatient Entities**:** Support community health centers, home health agencies, visiting nurses associations, and similar groups participation in planning for surge capacity, this will include staff time and training.

6) Other Non-acute Healthcare Entities**:** Support rehabilitation hospitals, Skilled Nursing Facilities (SNF's) and other second-tier facilities in regional planning process.

7) MDPH State Hospitals**:** Establish capacity at the four state owned MDPH hospitals to assist in receiving stabilized patients (both pediatric and adult) to assist with surge capacity building, isolation and quarantine. This funding will allow for the purchase of PPE and other patient care equipment, enhancement of security/communication systems and staff training.

8) Special Needs Populations**:** Support plans to address special needs population disaster planning and response infrastructure development to ensure that Massachusetts has a more comprehensive system to handle surge capacity among all patient groups. (See Cross Cutting section F)

II. Isolation Capacity

Critical Benchmark #2-2: *Upgrade or maintain airborne infectious disease isolation capacity to have at least one negative pressure, HEPA-filtered isolation facility per awardee, to be placed in accord with the findings of the awardee's needs assessments. Such facilities must be able to support the initial evaluation and treatment of 10 adult and pediatric patients at a time having a clinical contagious syndrome suggestive of smallpox, plague or hemorrhagic fever, prior to movement to a definitive isolation facility.*

The MDPH goal is to have sufficient isolation rooms available in the state to triage and care for the first wave of potentially infectious victims of a mass event, as well as plans in place for cohorting and facility designation for geographic isolation of patients as an event continues.

1) Isolation Room Inventory: Massachusetts currently has 705 isolation rooms, of which 77 have HEPA filtration of the exhaust (See HRSA Attachment 1- Isolation Map). Their

distribution is such as to allow triage to be conducted throughout the state. Capacity to hospitalize large numbers of patients may require local expansion of capability or transfer of patients. Planning for use of these rooms in a coordinated response is being conducted in the statewide and regional workgroups. As part of the planning for patient distribution, we expect that the electronic diversion tracking system (discussed in the EMS section, HRSA Priority Area 3 below) will also be used to track use of isolation beds in real time, enabling more efficient patient distribution. Exercises will include testing of this use of the system.

2) State MPDH hospitals**:** There are four state MDPH hospitals in Massachusetts, currently used for both acute and chronic care, which could be used as designated isolation facilities. One of these hospitals, the Massachusetts Hospital School is a hospital that cares for disabled children and adolescents and therefore Massachusetts is currently capable to handle a pediatric surge (including disabled children and adolescents). This would require plans to be developed to move the current inpatients and residents to other facilities and would also require some upgrading of the physical plant at these four facilities. Funding FFY03 will be used to upgrade the four state hospitals to acute-care standards to be used as isolation facilities. We have proposed above in our discussion of Critical Benchmark 2-1, to use funding for these purposes.

3) Transfer Plans**:** EMS agencies would be heavily involved in any transfer plan. To develop their capacity to contribute safely to patient movement, we have directed funding from the 20% FY 2003 HRSA advance to increase infectious-disease personal protective equipment in the possession of the EMS services of the Commonwealth. In addition, in our proposal below in Priority Area 3 for the use of the remaining FFY 2003 HRSA funds we are supporting further training in PPE use, and provision of PPE and medications, to EMS agencies. The smallpox program will be offering vaccination to EMS providers as federal guidance directs.

4) Supplemental Isolation Capacity**:** In addition to the cohorting and transfer plans, we have identified the need for rapidly deploying supplemental isolation beds in a given geographic area, since the bed density in existence is not suited for medium-scale hospitalization (tens to hundreds of patients) and cohorting in designated facilities may not be implemented until an event is large-scale (hundreds to thousands of patients). We will be purchasing at least one portable isolation unit, consisting of a sealed module allowing for isolation and care of potentially multiple contagious patients in a negative pressure environment with HEPA-filtered exhaust. Such units could be used for the initial evaluation and triage of patients suffering from a potentially contagious disease, and could also be used as staging facilities for transfer and movement of patients from initial sites of care to those facilities being used for definitive isolation and care. The uses of these units will be determined through exercises and drills of their deployment, in coordination with local and regional health care systems, such as the hospital and EMS regional planning bodies and the Metropolitan Medical Response Systems in Boston, Worcester, and Springfield. We plan to pilot test one or two portable isolation units to be stored in a readily accessible location, and which can be quickly deployed to appropriate sites to supplement on-site hospital isolation capability.

III. Health Care Personnel/Credentialing

Critical Benchmark #2-3: *Establish a response system that allows the immediate deployment of 250 or more additional patient care personnel per 1,000,000 population in urban areas, and 125 or more additional patient care personnel per 1,000,000 of population in rural areas, that would meaningfully increase hospital patient care surge capacity.*

Critical Benchmark #2-4: *Develop a system that allows the credentialing and supervision of clinicians not normally working in facilities responding to a terrorist incident.*

Personnel surge capacity is especially hard to develop in a medical care that is already severely stressed in daily operations, especially due to lack of qualified staff such as nurses. Nevertheless, we are pursuing several avenues of development in order to meet the requirements of the cooperative agreement guidance.

Massachusetts is pursuing four methods of increasing staffing to meet disaster-related surge capacity needs:

1) The first is that of "redeployment". We are fortunate to have a large health care workforce, and we have incorporated into our regional planning goals and a recently developed hospital mutual aid MOU the need for hospitals to both receive and dispatch their staff to other facilities within the state to meet patient flow needs. Several regions are already completing staff cross- credentialing processes for physicians as well as cross-deployment policies for nursing staff. We plan to have all regions' plans complete by the end of the HRSA FFY 2003 cooperative agreement. There are also legal issues that must be resolved regarding supervision, such as for physicians' assistants and nurse practitioners.

2) A large pool of staff may be made available through creative use of healthcare workers not traditionally considered as disaster responders; through a process we are calling "adaptation". In Massachusetts, for example, we have approximately 8,000 dentists and oral surgeons, who could potentially offer vaccination, prophylaxis, evaluation, wound and trauma care, and anesthesia services in the setting of a large-scale casualty-producing event. Furthermore, many hospital staff without formal medical training (housekeeping, security, dietary, etc.) may serve a useful support function within their accustomed environments if given even a small amount of formal medical training. Use of either type of personnel pool requires development of training curricula and then delivery in a convenient and affordable manner. In addition, a practitioner's provisions of care outside of their normal scope may require amendments to the health care legislative and regulatory systems. We plan to address some of these issues within the span of this new cooperative agreement period.

3) Student pools, especially in Massachusetts with its extensive health profession educational system, offer another source of potential staffing backup, a process we are referring to as "promotion". The use of nursing, medical or public health students would require legal and regulatory provisions as well as extensive training and supervisory systems. We plan to pursue this goal in the future.

4) Retirees and those medical professionals with lapsed licenses have also been proposed as staff support. We are referring to this process as "rejuvenation". Requirements here include the necessity for a system to assure continued ability, such as refresher training. Presumably such training would need to be offered periodically rather than at the time of a disaster, although it is possible that individual skills (such as smallpox vaccination) could be taught rapidly in time of need. Use of these personnel also raises issues of identity verification, skills confirmation, and supervision. Such issues also arise in the context of managing the "spontaneous volunteers" who will likely appear at any disaster site. We are developing both systems to identify retirees as staffing assets, and more global systems to rapidly identify and verify both active and retired practitioners' licensure and skill sets. We plan to have completed a pilot project in the southeast region of the state in both aspects by the end of this cooperative agreement period.

Ultimately, we hope and expect that all health professionals in the state will be permitted under regulation to provide appropriate care to the level of their training and experience in a disaster situation, regardless of the site at which care is delivered. Providers who are not normally considered as resources, such as dentists, office-based physicians and nurses, school nurses, community health personnel, and retired or otherwise inactive personnel will be identified and trained. Personnel in a region will be incorporated into regional plans and thus also made available for statewide deployment. An identification system will be developed to enable scene commanders or hospital or health care administrators to rapidly confirm the level of ability and licensure of a volunteering health care provider. In-state Disaster Medical Assistance Team (DMAT) and other disaster response personnel will be incorporated into the state emergency response plan. All personnel will be offered appropriate training to enable them to provide care safely in disaster situations. Volunteer management systems will be in place.

To accomplish Critical Benchmark 2-4, the following activities will be undertaken using the HRSA FFY 2003 funding:

- Develop training programs for appropriate health professionals, e.g. dentists and oral surgeons (approx. 8000 in the Commonwealth) to enable them to practice as broad-based patient care personnel in a disaster.

- Develop a credential to be issued to health care personnel in the Commonwealth for disaster identification.

- A pilot project will be conducted in collaboration with a regional branch of the Volunteer Medical Reserve Corps to develop a roster of personnel in the area. This project may include adapting communications technology and databases, such as the existing enhanced 911 system, to allow rapid staffing responses to surge capacity needs.

Massachusetts has future plans beyond the FFY 2003 HRSA cooperative agreement to develop or contract to develop a volunteer registry of retired or otherwise inactive health care personnel for use to help meet surge needs. This registry would likely be maintained regionally or locally but could be accessed by state authorities rapidly to provide staff supplementation.
Additionally, DPH is planning in the future to create training programs for medical students, dental students, nursing students, public health students, and house officers in graduate medical education programs, to increase their ability to contribute to surge capacity staffing.
This will ultimately result in the development of a robust and simple credentialing system, identification device, and management tool for "spontaneous volunteers" to assist emergency responders and managers in appropriate use of scene volunteers.

IV. Pharmaceutical Caches

Critical Benchmark #2-5: *Establish local or regional systems whereby pharmacies based in hospitals or otherwise participating in the local or regional health care response plan have surge capacity to provide pertinent pharmaceuticals in response to bioterrorism or other public health emergencies.*

MDPH will be completing the following activities during the coming year to accomplish this goal:

1) Hospitals and EMS systems will have immediate-use caches of chemical-agent antidotes.

2) Hospitals will have access to antibiotics for own-employee protection and initial patient care and prophylaxis for a 2 to 3 day period.

3) Plans will be in place for deployment and use of assets obtained via the Strategic National Stockpile.

4) Antibiotics, antidotes, anti-radiation agents, and other drugs will be maintained in stockpiles locally, regionally, and at the state level for deployment, for both initial treatment and a 2-3 day period of treatment of patients until arrival of outside resources.

The Massachusetts plan for the Strategic National Stockpile will enable rapid deployment of federally supplied medications and antidotes once the push packages or other supplies are delivered. Under the CDC 2003 cooperative agreement, MDPH will develop a statewide plan for deployment of SNS assets to hospitals and model plans for hospital management of SNS assets. Due to time constraints on the need for immediate use of certain antidotes, (for example, the need for nerve-agent antidote within seconds to minutes of exposure), we are planning to utilize HRSA funding to increase and support local caches of medications at hospitals and EMS agencies to provide for initial treatment of victims of chemical and biological terrorism.

Currently the three Metropolitan Medical Response Systems in Massachusetts (Boston, Worcester, and Springfield) maintain or are acquiring stocks of antibiotics for chemoprophylaxis of civilians as well as antidotes primarily for force protection. The hospitals of the Commonwealth have significant stocks of atropine, but in general lack large amounts of pralidoxime and manage their antibiotics via "just-in-time" inventory systems. In addition, while we have added nerve agent antidote autoinjectors to the statewide EMS treatment protocols (thus legally enabling their use), only the major services are as yet being equipped with them. Most EMS services are supplied with their pharmaceuticals via their affiliated hospitals.

We therefore need to supply the base hospitals with nerve agent antidotes in a form that allows them to not only treat emergency department patients, but to supply their affiliated EMS services with such medications. Due to the need for immediate availability of such pharmaceuticals, and the long shelf life of "Mark I" antidote kits, we plan to support the purchase of such devices by hospital pharmacies in quantities geared to initial treatment of victims of chemical terrorism, using funding obtained from the 20% advance of the HRSA FFY 2003 award. Funding for Mark 1 antidote kits for EMS services is included in this years HRSA 2003 (80%) proposal.

Antibiotics for prophylaxis and treatment of a biological attack pose a slightly different issue. In order to assure that health care workers feel comfortable coming to work despite a bioterrorism threat, we expect that hospitals, EMS agencies, and other health care employers will need to be able to provide initial doses of prophylactic antibiotics to their staff and likely to their staff's immediate families for several days, until federal resources are fully deployed. Pursuant to this, we plan to support maintenance of stockpiles of general-purpose antibiotics such as doxycycline at hospital pharmacies in quantities sufficient to allow initial treatment before Federal inventories or vendor-managed inventories become available. Procedures will be implemented to rotate such stockpiles through regular hospital stock in order to mitigate product expiration dates (a model that is already being used by Boston hospitals in maintaining the Boston MMRS cache).

In addition to these medications, there may be a need for specialty antidotes and pharmaceuticals, such as was seen in New Sweden, Maine recently in their arsenic poisoning incident. The Regional Center for Poison Control and Prevention maintains a database of antidote inventories

in participating hospitals in Massachusetts and Rhode Island. MDPH, through the SNS Workgroup, will establish and maintain a database of state, MMRS, hospital and clinic inventories of antibiotics and antidotes, including "unusual" antidotes, which may be needed in particular circumstances. Massachusetts already maintains a stockpile of 400,000 doses of KI, due to the proximity of several nuclear power facilities near and in the state, and this material will serve as an initial treatment cache in the event of certain types of radiological releases. This stockpile will be distributed to the MMRS's to provide regional caches as well as a central depot.

The statewide SNS Asset Management Plan will include plans to deploy SNS assets to hospitals to supplement and replenish pharmaceutical caches in response to a bioterrorism event.

Future goals include plans to encourage and require hospitals to manage all antibiotics stock using a Vendor Managed Inventory (VMI), and the establishment of interstate regional antibiotic and equipment distribution and supply networks.

V. Personal Protection and Decontamination

Critical Benchmark #2-6: *Ensure adequate personal protective equipment (PPE) to protect 250 or more health care personnel per 1,000,000 population in urban areas, and 125 or more health care personnel per 1,000,000 population in rural areas, during a biological, chemical or radiological incident.*

Critical Benchmark #2-7: *Ensure that adequate portable or fixed decontamination systems exist for managing 500 adult and pediatric patients and health care workers per 1,000,000 population, who have been exposed to biological, chemical or radiological agents.*

MDPH will carry out the following activities to ensure that the above two Critical Benchmarks are achieved:

(1) Hospital PPE: All 74 acute-care hospitals with emergency departments will have sufficient equipment and trained personnel in-house to provide a Level C-protected or better decontamination team for incoming patients.

(2) Hospital and Fire Service/First Responder Mass Decontamination: Hospitals and fire services will have active plans and collaboration for the use of the 93 Mass Decontamination Units (MDUs) already deployed in the state (to meet Critical Benchmark 2-7).

(3) PPE and Decontamination Training: Hospital and EMS personnel will continue to receive state funded training in an OSHA-compliant manner to prepare them to function in the Level C decontamination environment, for work in hospital decontamination areas or field "warm zones".

(4) Hospital Plans: Hospitals will have appropriate plans to safeguard facility integrity in the face of contamination threats.

Over time, training in decontamination and safe PPE use will be incorporated into the standard training programs offered in the state for healthcare workers, specifically including physicians, nurses, and EMS providers.

Massachusetts hospitals have made significant strides in familiarization training for hazardous materials and decontamination in the last year, as evidenced by (1) most emergency department

personnel have received at least some minimal hazardous-materials training, (2) the DelValle Institute of Boston Public Health Commission, funded via the CDC cooperative agreements and through the Boston MMRS, has begun training the 10 Boston hospital and Boston-based EMS personnel to Operations standards with Level B PPE, and (3) statewide standards for hospital PPE and decontamination were developed and disseminated after a comprehensive and collaborative six month process.

A number of PPE and decontamination initiatives that began with funding from the HRSA 2002 Cooperative Agreement have been developed and will be implemented, continued, or enhanced using the 2003 funds. (See further detail below as well as HRSA Priority Areas 3 - EMS, and 5 - Education and Training)

Mass Decontamination Units: As we reported in our 11/1/02 Progress Report, a Massachusetts statewide decontamination system was developed by the Massachusetts Department of Fire Services to respond to and protect all potentially effected hospital emergency departments. Using U.S. Department of Justice, Domestic Preparedness grants, the program has purchased and recently completed deployment of 92 mass decontamination units, and has placed 76 of the "hospital" designated units in communities that have a hospital emergency department. The remaining 16 units designated as "district" units will provide back up services to those communities in the event that more than one unit is required at a scene or additional hospital response is needed. All units are now in place, but no funding had ever been appropriated to actually fund their operation or to train hospital personnel in their use. Making these units operational will mean that Massachusetts exceeds the goal set out in Critical Benchmark 2-7. Conservatively, each of the 92 MDU units can provide decontamination for 75 - 150 individuals per hour, or 6900 – 13,800 statewide. Each unit has two ambulatory (male/female) and one stretcher lane. Since the benchmark for Massachusetts would equate to 3000 individuals over six regions; our current capacity, once fully operational, will far exceed this goal.

Using the HRSA FFY 2002 and 2003 advance funds, Massachusetts has developed two parallel Memoranda of Understanding that will provide financial support to, and detail the responsibilities of, both parties (hospital and fire service). This seven-component process will, when implemented, allow each hospital and fire service to complete a comprehensive joint planning process, immediately recognize the need for mass decontamination, utilize appropriately trained personnel, conduct appropriate exercises and drills, replace equipment used during the drills or actual events and conduct joint training to be able to operate at-hospital MDU's for mass decontamination purposes.

While current funds are available for the first round of MOUs, ($3500 per hospital and $3500 per Fire Service), we propose to annualize this program with 2003 HRSA funds at a cost of $2500 per hospital and $2500 per fire service per year.

PPE and Decontamination Training

The state Department of Fire Services Fire Academy has developed a two day (hospital) and three day (EMS) educational program geared to hospital and EMS staff that meets OSHA Operations-level requirements and includes significant hands-on training in Level C PPE use and actual decontamination. This program is fully funded for the next 12 months under the current HRSA 2002 cooperative (enhanced using the 20% 2003 advance funds) and is provided at no cost to providers, an attribute which greatly increases its attractiveness availability to hospitals and EMS agencies.

Over the next year, 75 two day and 75 one day (added EMS module) sessions will be held and an estimated 2750 EMS personnel and 2230 hospital staff will be trained. Using 2003 HRSA funds, we propose to provide an equal number of sessions and train an additional 5000 hospital and EMS personnel to ensure that all employees who need the training have access to it.

Purchase of PPE and Decontamination Equipment, Enhancement of Capacity

The 2002 Hospital and EMS surveys (reported in the 11/1/02 Progress Report) identified the need for PPE and decontamination equipment. Many hospitals have acquired PPE or constructed some form of decontamination facility for a small number of patients. Decontamination facilities at some sites need to be expanded to handle additional of patients that may fall short of triggering a large scale MDU deployment. (Note: An updated hospital and EMS survey of selected issues such as the status of PPE, on-site decontamination capability, and isolation capacity will be conducted during the coming year). To further assist in the accomplishment of the Critical Benchmark, and to supplement the HRSA 2002 and 2003 advance funding that will be used for initial purchases of PPE for hospital and EMS services, we propose to support additional hospital and EMS PPE purchasing, training, maintenance, and replenishment.

Future goals include the expansion of PPE, decontamination and incident command training programs to other health care providers such as community health centers, outpatient services, home care, VNA services and individual practitioners. MDPH will also plan for incorporation of PPE, decontamination and incident command training into all levels of EMS curricula, and into training programs for medical students, dental students, nursing students, public health students, and house officers in graduate medical education programs.

VI. Mental Health

Critical Benchmark 2-8: *Establish a system that provides for a graded range of acute psychosocial interventions and long-term mental health services to 5000 adult and pediatric clients and health care workers per 1,000,000 population exposed to a biological, chemical, radiological or explosive terrorist incident.*

The need for the nation to protect the psychological health of those victimized by terrorism is clearly evidenced by the events of September 11th and their aftermath. There is a growing body of professional literature identifying the mental health impact of such large-scale disaster. In addition, Massachusetts has both needs assessment information and experimental evidence highlighting specific mental health issues that have arisen from the disaster of 9/11/2001 and the ensuing threat of terrorism.

MDPH has conducted a CMHS sponsored disaster mental health needs assessment. DMH and the MDPH Bureau of Substance Abuse Services (MDPH-BSAS) have actively collaborated on public information and education projects around response to disaster and co-chair the statewide Disaster Mental Health and Substance Abuse Services Committee to strengthen disaster mental health and substance abuse integration with mainstream emergency management stakeholders. DMH and MDPH-BSAS work closely with the MDPH led CDC and HRSA cooperative agreement projects and participate in workgroups on risk communication, education and training and needs assessment. These experiences have allowed DMH and MDPH-BSAS to identify and use modes of intervention to mitigate the progression of acute trauma symptoms into more chronic conditions such as post-traumatic stress disorder, anxiety, depression or substance abuse. The relationships developed with emergency management stakeholders have afforded DMH and

MDPH-BSAS with avenues for integration of these issues into mainstream preparedness planning.

In any disaster, there are individual and community mental health needs. A flexible plan should include contingencies for both. It should also be scalable to address local emergencies as well as catastrophic events. It is necessary to differentiate between acute and long-term needs in planning. Clearly, response infrastructure, training and mechanisms for public education are essential to carrying out a comprehensive plan. These elements are addressed in the following disaster mental health and substance abuse services plan components.

Needs Assessment for Mental Health
Regional Surge Capacity for Mental Health (including planning for triage)
Education and Training
Risk Communication (including Public Education/Information)
Planning for Psychosocial Consequences of Bioterrorism and Other Public Health Emergencies (including Data Bank of certified mental health professionals/crisis counselors)

These services will provide psychosocial interventions and longer-term mental health services to 5,000 adult and pediatric clients and health care workers per 1,000,000 population exposed to a biological, chemical, radiological or explosive terrorist event. The 2001 Census estimate indicates there are approximately 6,379,304 people living in Massachusetts. Therefore, DMH and MDPH will prepare to train enough staff to care for 30,000 to 40,000 mental health clients if a disaster were to occur in Massachusetts. The funding to provide for the provision of disaster mental health services and programs is critical to meeting these needs identified in a well-coordinated manner. Such support is prerequisite to managing the other mental health/substance project components identified in this plan and maximizing the interagency collaboration necessary for a successful disaster mental health system.

1) Department of Mental Health Disaster Emergency Services

DMH currently conducts emergency management activities either via minimal in-kind staffing commitments or through time-limited federal relief grants. The need for mental health coordination, planning and technical assistance and service provision is crucial during a public health disaster. It is, therefore, most important to create sufficient additional capacity within DMH for emergency management during a terrorist attack. DMH is uniquely suited to coordinate and provide appropriate mental health services during the aftermath of a terrorist incident.

As the state's mental health authority, DMH has centralized oversight over a large system of mental health programs and services in Massachusetts and is a longstanding member of the Massachusetts Emergency Management Team. DMH is a support agency to the MDPH during an emergency and is the entity that administers FEMA crises counseling grants when a presidential declaration of emergency occurs. As stated previously, DMH, in cooperation with MDPH-BSAS, chairs the state's Disaster Mental Health and Substance Abuse Services Committee and has participated in disaster preparedness and response activities for over ten years.

Through an interagency service agreement (ISA) using HRSA FFY 2003 funding, MDPH will contract with the DMH for the provision of psychiatric services needed as part of the mental health emergency management plan. Activities that will be carried out through the ISA include mental health clinical direction and technical assistance during a disaster, the development of

public risk communication messages regarding emotional well-being, coping and panic mitigation in the event of a terrorist attack and the study of outcomes of crisis response efforts. DMH will coordinate with MDPH CDC/HRSA leadership staff, as well as medical, psychiatric, and psychological peers in the community, to enhance emergency preparedness.

DMH will plan for the expansion of the existing Disaster Mental Health and Substance Abuse Services Committee beyond the current state agency and voluntary organizations to include representation from private sector mental health, all mental health professional organizations, child/adolescent providers, major non-profit mental health/substance abuse provider agencies and the state's psychiatric emergency services structure. DMH will continue the inclusion of disaster spiritual care providers and groups representing ethnic/cultural populations in disaster mental health and substance abuse planning. DMH will develop presentations for medical, mental health and human services leadership staff on evidenced based disaster mental health/substance abuse practices with attention to the special needs of special populations, including health care workers exposed to a disaster. Key stakeholders, not historically active in state disasters, will be included in the response system. These include: psychiatric emergency services teams, professional societies, insurers/HMOs, primary care providers, universities and private medical and mental health facilities. DMH will also provide mental health consultation regarding risk communication and public information to relieve terror.

DMH will also work with the various Emergency Preparedness and Response Advisory Committee workgroups to determine the needs of mental health providers and substance abuse facilities in responding to a disaster, maintain a database of certified crisis counselors that may be deployed in an event, assist in surge capacity planning and ensure that appropriate mental health content is incorporated into emergency preparedness and response training and education materials.

2) Enhancement of DMH Mental Health Response Capacity

Through the ISA mechanism from HRSA FFY 2003 funding, MDPH will increase DMH's mental health response capacity by providing for a large-scale acute and a moderate long-term mental health response in the event of a disaster, whether it be a natural or man-made. By enhancing DMH's mental health response capacity, MDPH will have access to a database of credentialed licensed mental health staff. Mental health staff will then work with MDPH epidemiology staff in providing support and information to the public during times of elevated concerns. Through this collaboration, DMH and MDPH will be able to rapidly deploy staff, establish an incident command system and provide assistance and care at family centers, disaster relief sites, health facilities and inoculation and treatment sites.

DMH will work closely with the MDPH CDC/HRSA leadership and the Surge Capacity workgroup to ensure that information, education and integration in planning is in place for 60 licensed psychiatric units as well as state run psychiatric units. Licensed units account for 2,464 adult and child psychiatric beds in addition to the approximately 1,000 beds in the state system. DMH and MDPH will develop mechanisms to reach leaderships of existing natural networks to provide education regarding disaster mental health/substance abuse preparedness and practice. Such groups might include: Mass League of Community Health Centers, Mass Health Care Quality Partners, Mass Medical Society, Mass Chapter of the American Academy of Pediatrics, Mass Chapter of the American Academy of Child and Adolescent Psychiatry, Mass Psychiatric Society (1700 Psychiatrists), Mass Psychological Association, Mass Hospital Association. Psychiatric emergency services will be better able to triage, refer and, if necessary, hospitalize

persons exhibiting severe symptoms such as post-traumatic stress syndrome, anxiety and depression.

DMH will develop training programs including mental health response for medical personnel, basic competency in biologic and chemical agents for mental health personnel and culturally competent and developmentally appropriate systems for special populations. Crisis Counselor training is an intensive two day training which teaches behavioral health staff, mainly licensed clinicians, to be able to provide crisis counseling services in the event of a disaster and to be placed on a 24/7 call-up roster. This component will be contracted to a qualified provider who will spend the first quarter on curriculum/material development. In the remaining three quarters of the first year, the provider will train a minimum of 75 staff persons per quarter; 225 persons trained in one year. The ratio of crisis counselors to victims at the Logan Airport 9/11 family assistance center was approximately 1 counselor per 20 persons. Using this ratio, 1,750 counselors will be needed to meet Massachusetts' goal of caring for 30,000 – 40,000 clients statewide. Given the intensity of the counseling training and the proposed funding level, this will need to be a multi-year goal. Depending on continued availability of funding, DMH will plan on training 225 in Year 1, 300 in Year 2 and 300 in Year 3.

MDPH and DMH will also provide pre-disaster training to the public and special population groups through community forums. The use of "psychological inoculation" techniques will improve the public's coping skills and emotional resilience. MDPH and DMH plan on conducting at least one mental health emergency services community educational forum per month. In addition, the agencies will conduct at least one behavioral health and emergency services training session in each emergency preparedness region.

This program model has been used by DMH is provision of services related to the events of 9/11 and is timely and of high quality while being cost effective. The model consists of a discrete contracted program that has dedicated core disaster mental health staff who are on call 24/7, develop training programs, maintain the roster of trained crisis counselors.

3) MDPH Training and Education - Psychosocial Consequences of Terrorism

In addition to a medical crisis, public health disasters and stress reactions to an incident may create immediate and long-lasting mental health and substance abuse problems for survivors and their families. As many as one in three survivors develop critical symptoms, which if not addressed, may lead to chronic post-traumatic stress syndrome, anxiety and/or depression. It has been well documented that timely and appropriate mental health intervention can be effective in minimizing the psychological consequences that are inherent in a disaster. MDPH-based training and education for psychosocial consequences of a terrorist attack is needed for those responding to patients that may present themselves as directly impacted and at risk, their families, the concerned - but well and healthcare workers responding to an incident. Essential elements of mental health emergency preparedness and response include appropriate basic mental health training and crisis counseling techniques for medical responders with the primary goal of psychosocial intervention being the rapid return to functioning in the community.

MDPH using CDC FFY 2003 funding will develop a terrorism psychosocial consequences training and education program that will teach participants to distinguish between the medical and psychiatric manifestations of terrorism and to recognize, assess and respond to the psychological and behavioral manifestations of fear. The program plans on conducting 5 large regional meetings and 25 specific smaller meetings targeting special groups such as psychiatric nurses. This program will train approximately 1,000 responders to provide psychosocial interventions

and longer-term mental health services to 5,000 adult and pediatric clients and health care workers per 1,000,000 population exposed to a biological, chemical, radiological or explosive terrorist incident. Through training, public health responders will attain the basic skills to reduce anxiety and panic in affected persons, in particular, special populations including those who have physical or cognitive challenges, children, the elderly, the homeless and those disenfranchised due to immigration or refugee status.

MDPH training in psychosocial consequences of a terrorist event will also educate first responders, emergency room staff, local public health officials, public health bioterrorism responders, epidemiologists, medical providers and community-based healthcare givers in disaster mental health and substance abuse issues. The training will provide responders with effective interventions and best practices in core mental health competencies. This program will incorporate cross-training mental health crisis counseling staff in fundamentals of bioterrorism and epidemiology.

4) MDPH Behavioral Risk Factor Surveillance Survey (BRFSS)

The BRFSS is a project that was begun with MDPH SAMHSA/CMHS Disaster Response Grant funding, which has ended, and will be continued under emergency preparedness and response funding. Of particular interest, is the inclusion of a module developed for the BRFSS that asks several questions related to anxiety and fears associated with the threat of terrorism. To continue this module on the BRFSS, MDPH will need to adapt, collect, analyze and report this data. This activity will be carried out using funding from CDC FFY 2003. The results of the survey will be instrumental in determining the extent to which the public is concerned about terrorist threats. The BRFSS will be beneficial in the development of multi-media, training and education materials that will address the fear of terrorism.

5) MDPH MassSupport Helpline

The establishment of a 24/7 MassSupport Helpline is another project that was designed and developed through SAMSHA/CMHS Disaster Response funding. The helpline was designed to operate with the Massachusetts Substance Abuse Information Education and Referral Helpline. The helpline augments the MDPH MassSupport multi-media project that will be described below. The continuation of the 24/7 MassSupport Helpline through emergency preparedness and response funding will assist MDPH in providing vital information to the public through the dissemination of pertinent education materials. Those who particularly benefit in the continuation of this helpline are those whose alcohol/drug use or mental health issues have been exasperated and whose recovery process has been jeopardized due to disasters or the threat of a catastrophic terrorist event.

This project will provide for a four-line statewide toll-free number with 24/7 coverage, the inclusion of disaster mental health and bioterrorism information, contacts and protocols, support and supervision by senior staff and the ability to mail educational print materials to interested parties. This activity will be carried out using funding from CDC FFY 2003.

6) Continuation and Enhancement of MDPH MassSupport Multi-Media Project

The MDPH MassSupport Multi-Media project was developed under the MDPH/DMH SAMHSA/CMHS grant. Multi-media materials were created, including a website, and are disseminated to the public. These materials address stress related to elevated terrorist threat levels provide basic wellness information and instruct families on creating a disaster plan.

Through the website, users can navigate to specific areas geared towards parents, children and other special population groups.

A full-time Health Communication Specialist (HCS) is needed to maintain and update the MassSupport website and print materials. The HCS will be responsible for researching information related to the fear of terrorism and materials that may be used in mental health and substance abuse programs. The HCS will work closely with the MDPH Training and Education and Risk Communication workgroups to ensure that mental health and substance abuse issues are addressed in all their activities, particularly training and information materials developed for dissemination to the public. This activity will be carried out using funding from CDC FFY 2003.

VII. Trauma and Burn Care Capacity

Optional Benchmark #2-9: *For awardees choosing to fund this section, enhance statewide trauma care capacity to be able to respond to a mass casualty incident due to terrorism. This plan should ensure the capability of providing trauma care to at least 50 severely injured adult and pediatric patients per million of population per day.*

Massachusetts has a number of hospitals with active trauma care programs. As part of normal EMS activities, patients with significant potential injuries are triaged from the field to trauma centers with tertiary capabilities. In general this system has been used for, and functioned well for, small numbers of patients from individual traumatic events (e.g. motor vehicle crashes). Recent events such as the West Warwick, Rhode Island nightclub fire have shown that, while the system was able to function successfully in providing care resources, there were areas that needed to be enhanced. These include incorporation of multiple types of specialty care (e.g. burn care beds), identification of secondary sites for specialty care, and patient tracking. The core of this effort is to strengthen the communications plans and systems being used for regional response and planning, both for EMS systems and hospitals. Furthermore, exercises need to be conducted to stress and test the system to allow for continuous improvement. We can currently provide care to numerous victims of trauma, but the coordination, distribution, and tracking of these patients must be supported by expanded and fortified communications systems, equipment, and plans.

Activities designed to meet this benchmark will be devoted to EMS and hospital regional planning for appropriate distribution of mass casualty patients to specialty beds, and patient tracking. Funds will be used to develop communications systems, real-time bed tracking capabilities, and to review and revise mass-casualty distribution plans. In addition, specific hospital capabilities will be supported, inasmuch as they contribute to trauma preparedness, such as specialty orthopedic capabilities. Under the 20% advance of the HRSA FFY 2003 funds, we have directed support to the EMS systems of the Commonwealth to increase their capability to manage trauma patients and other forms of mass-casualty incidents through increased training opportunities and obtaining PPE equipment. In addition, hospitals have been supported in their individual and regional disaster-plan implementation under the HRSA FFY 2002 and 20% FFY 2003 advance funding MDPH MOU proposals.

Several initiatives discussed under other sections of this HRSA FFY 2003 document will contribute to trauma system capabilities. Most notably, the general hospital regional planning initiatives will enhance the ability of the health care system to redistribute patients for both initial stabilization and definitive care (see Critical Benchmark 2-1, specifically for implementation of hospital MCI plans and improved patient tracking and reporting); the incorporation of chronic and rehabilitation facilities in surge planning will enable "off-loading" of trauma patients from

acute care hospitals if necessary; the diversion tracking system (see Critical Benchmark 3 - EMS) will assist EMS agencies in implementing their MCI plans; and the personnel and credentialing initiatives will increase the ability of the health care system as a whole to provide surge care due to the ability to increase staffing at least temporarily.

Future goals include training for trauma service personnel on specific terrorism issues (those not already trained under other parts of this initiative), including house officers in graduate medical education programs, direct support to trauma care centers to enable expansion of their capabilities and coordination with local biotechnology and medical care assets for specialty services (e.g. skin culture for burn care).

VIII. Communications and Information Technology

Critical Benchmark 2.10: *Establish a secure and redundant communications system that ensures connectivity during a terrorist incident between health care facilities and state and local health departments.*

The Massachusetts Department of Public Health (MDPH) considers the interoperability of information technology (IT) systems as the most crucial component of electronic communications. Establishing a secure and redundant communications system that ensures connectivity during a terrorist incident has been a high priority for the MDPH. MDPH is working together with the public health community in Massachusetts, including: hospitals, The Massachusetts Hospital Association, local health departments, The Massachusetts Emergency Management Agency (MEMA), The State Police, The Department of Fire Services (DFS), emergency medical services (EMS), neighboring states, The Department of Mental Health, The Wampanoag Tribe of Gay Head (Aquinnah), federal public health officials, special need groups and other public health and safety organizations. MDPH's goal, under the HRSA Cooperative Agreement, is to ensure that these entities can communicate both vertically and horizontally, in an effective manner to transmit vital information, health alerts and advisories in a timely manner during a public health emergency.

A needs assessment of the current communications infrastructure, particularly among hospitals, emergency medical services and government agencies and the establishment and implementation of the Massachusetts Alert Network (MAN), funded through the CDC cooperative agreement, are addressing communications technology gaps that existed in the past. The initiatives described below are the basis for a redundant and interoperable statewide communications plan and system.

1) Massachusetts Alert Network

As a secure application interfaced with a wide range of devises (e.g. pager, fax, phone, email, wireless), the Massachusetts Alert Network has established the infrastructure necessary for continuous, secure, bi-directional communication and information sharing in support of aspects of bio-terrorism preparedness including, but not limited to, response planning, educational services, disease surveillance, laboratory reporting and epidemiologic investigation. The core functionality of the Alert Network will provide a secure means to utilizing:

- a role based user directory containing the contact information of all appropriate Commonwealth personnel (user specific, rapid communication distribution for emergency situations
- online news postings for low priority information dissemination

- online discussion forums to provide a means for easy user collaboration and communication
- online training documentation and schedules to ease administrative burden associated with any existing and/or future educational services
- online document collaboration and library to facilitate all document editing, approval and then distribution processes.

Currently in pilot phase the Alert Network has 350 active pilot users representing numerous agencies and organizations that have worked in concert toward establishing the proper channels of communication. These agencies and organizations include: MA Hospital Association, MA Information Technology Division, Executive Office of Public Safety, Anti-Terrorism Task Force, Department of Food and Agriculture, Department of Public Health, Fire, Hospitals, Local Boards of Health, Mass League of Community Health, Mass Medical Society, DEP, US General Services Administration, US HHS and CDC. MDPH plans to continue roll-out of the Alert Network across the state to include users in all 351 local jurisdictions including public health and public safety officials.

The application will be hosted with Massachusetts' central IT services with fail-over locations at the MEMA bunker. Additionally, MOUs are being developed with neighboring states such as New Hampshire to serve as back-up sites for the application.

In addition to this Massachusetts Alert Network application implementation, engineering studies will be initiated to determine the optimal means of providing high-speed internet access to local public health officers and their partners. Participation in the pilot phase of the Alert Network includes multiple agencies legitimizing the feasibility of a statewide and local public health and safety disaster informational and referral computer system. This activity will be carried out using funding from CDC FFY 2003.

2) EMS Communications

A State Communications Committee was formed under the guidance of the Massachusetts' Emergency Medical Care Advisory Board (EMCAB). The Committee, through the services of a consultant and funded by the CDC cooperative agreement, is evaluating the EMS communications system and will make recommendations on improving the system to meet current and future needs. The evaluation will consider advancing technology, the need for interoperability and changing channel allocation schemes. The Communications Committee will coordinate with public safety agencies and with the Health Alert Network on similar communications needs.

The contractor for the EMS communications study, RCC Consultants, Inc., has surveyed and completed site visits at each of the seven (7) C-MED sites. The information they have collected is currently being analyzed to evaluate frequency usage, coverage, and transmission quality (e.g. clarity, interference, etc.). Coverage maps have been assembled on a regional basis and will be used to identify areas where coverage is inadequate. Inventories and licensing information have been collected for all C-MEDs and base stations. FCC requirements regarding MED channel usage have also been reviewed. The analysis of this information will result in the development of a statewide frequency plan that will optimize the use of current frequencies and resources. The plan will take into account the FCC requirement that over time EMS operate on narrowband channels.

An improved EMS communications system plan will seek to make optimum use of existing frequencies and resources, expand coverage and minimize interference. Of particular importance is allowing C-MED centers to communicate with one another. The contractor is presently assessing three options for consideration:

- Enhanced C-MED Network – This approach would have channels assigned exclusively within regions based on a non-interference basis;
- Intelligent C-MED Network – This approach would allow for greater management and flexibility within the statewide system. Channels would be distributed based on loading and traffic and would allow for management and allocation of channels;
- Multiple-Access C-MED Network – This approach would be highly automated (i.e. assigning channels automatically) yet expand capability to allow for broad regional and statewide communications.

In assessing possible solutions to improve inter/intra regional C-MED and hospital communications, the contractor will assess options that allow for both voice and data communications. A radio-based system that allows for sharing of data between C-MEDs and hospitals would complement and serve as the necessary redundancy to any internet based system. The contractor's work should be complete by the end of June 2003. A final report with recommendations will be delivered in July. Implementation of the findings of this study will be carried out using funding from CDC FFY 2003.

The Department has also contracted, through funding made available from the CDC cooperative agreement, with Berry, Dunn, McNeil and Parker (BDMP), a Management Consulting firm, to evaluate the current ambulance diversion website and make recommendations on improving the system and enhancing its utility and reporting capabilities. Various options will be considered on where the system will be hosted and how best to enhance its capabilities. The evaluation will also include how the diversion site may be used as an inventory resource during a public health emergency and disaster situation. In addition, the contractor will develop recommendations on establishing a resource registry that will allow for the collection and dissemination of hospital and pre-hospital resource information (e.g. types of beds, ambulance vehicles, etc.). The contractor has begun surveying stakeholders and system users and final recommendations will be made this summer. Implementation of changes to the diversion tracking system will be implemented using funding from HRSA FFY 2003 (see Critical Benchmark 3 – EMS).

3) Hospital Communications Plan Enhancement

A redundant and interoperable statewide hospital communications plan is being developed under the HRSA Cooperative Agreement. In the past, hospitals primarily depended on cellular phones as a back-up communications mechanism. As demonstrated in the communications difficulties on 9/11, cellular phone use may not be dependable due to system congestion that occurs during emergencies. In the initial stage of the interoperable statewide communications plan, two direct-connect cellular/two-way radio phones and one satellite telephone will be provided to each Massachusetts acute care hospital with an emergency department as redundant modes of emergency communication. These phones will be integrated with the Health Alert Network. The cellular/two-way radio and satellite phones, with regional and statewide dedicated channels pre-programmed, will also be provided to each of the CMEDs, MEMA, DFS, The State Police, HAZMAT command centers, Massachusetts' five EMS regions, the U.S. Attorney's Office's Massachusetts Anti-Terrorism Task Force, Office of Commonwealth Security and the Wampanoag Tribe of Gay Head (Aquinnah). The Local Health Emergency Response Coordinator is working closely with the Wampanoag tribe to evaluate the need for technological

equipment to maintain communications and connectivity from Martha's Vineyard. The phones will be programmed to receive health alerts from the Health Alert Network and MDPH, in turn, will receive receipt confirmation of the alerts to ensure that information is being communicated directly to the organizations listed above.

This communications plan will provide redundant functionality in the form of group conferencing and two-way communication. MDPH is researching ways of categorizing the phones into various talk-groups to simplify emergency communications, both vertically and horizontally. For example, six regional talk groups may be established so that each hospital, applicable MMRS, CMED and EMS services in that region would be able to direct-connect as a group if an emergency were to occur in that specific area of the state and land-lines were inoperable due to backlog. During the next year, DPH will continue to work with representatives from these organizations to establish and formalize the talk-groups and will ensure that the technology used is interoperable statewide to the extent that technology permits. Periodic drills using these phones will be conducted so that participants retain the skill level needed to use the technology if an emergency.

Efforts are being made to bridge the barriers of wireless communications. Since area coverage of the various wireless communications plans is not perfect, MDPH will continue to explore which systems work best in various areas of the state and if appropriate will incorporate them into the statewide hospital communications plan. MDPH will also explore and monitor the types of redundant communications systems being used by the neighboring states (Rhode Island, New Hampshire, New York, Maine and Vermont) so, to the extent possible, given the technology available, Massachusetts will be able to communicate with them if a disaster were to occur and there is a need for interstate cooperation.

In addition, MDPH will continue to communicate with the hospital community through a variety of mechanisms, including electronic alerts, blast faxes, and advisories, using periodically updated contact information. Funding for these activities comes from both HRSA and CDC FFY 2002 and 2003 Cooperative Agreements.

4) Statewide Conference Calls

MDPH has and will continue to utilize statewide conference calls when the need arises to brief hospitals, EMS and other public health and safety entities at one time on emergency preparedness issues. Statewide conference calls, incorporating question and answer sessions, have been well attended. They provide MDPH, the health and public safety community and other special need groups with valuable information on topics such as smallpox vaccinations, SARS and how emergency response systems respond to a Department of Homeland Security elevated threat level. MDPH has been able to guide emergency preparedness throughout the Commonwealth through these popular statewide conference calls.

5) Government Emergency Telecommunications Service

The Hospital Emergency Preparedness Program intends to explore the Government Emergency Telecommunications Service (GETS), a priority access service provided by the Office of the Manager, National Communications System. GETS offers callers priority treatment if phone congestion, which may likely occur during a public health emergency. The GETS program has identified public health as a user type that performs national security/emergency preparedness functions necessary for issuing civil alerts and maintaining the health and safety of the U.S. population during times of national, regional, or serious local emergencies. GETS specifically

identifies public health's role with hospitals, managing medical resources, the distribution of medical supplies and disaster recovery as criteria in determining who may qualify as a GETS user. MDPH will research the possibility of obtaining GETS access and incorporating this system into the statewide communications plan as another type of redundant connectivity.

6) MDPH Bioterrorism Website

MDPH has developed the Emergency Preparedness and Response Advisory Committees website (www.state.ma.us/dph/bioterrorism/advisorygrps). This site facilitates communication regarding workgroup and advisory committee activity among the participants of the Bioterrorism Advisory Committee. The website has received over 18,663 hits since its creation in August 2002 and has served as a useful tool to disseminate information regarding emergency preparedness and response activities statewide.

7) Listservs

MDPH established and will continue to use email listservs in communicating with all committee and workgroup members statewide. MDPH assured that the representative for the Wampanoag Tribe of Gay Head (Aquinnah) was added to appropriate listservs to foster collaboration and coordinate with the tribe.

8) Geographic Information System

MDPH is working with the Massachusetts Office of Geographic and Environmental Management, MEMA and vendors contracted by MDPH to perform a study of Geographic Information System (GIS) needs within the agency. MDPH's Hospital Emergency Preparedness Program plans to invest in GIS systems and software that will manage existing and newly created databases, display, query and perform analyses of spatial information regarding a public health emergency and the health care services available at the time. The mapping function available through GIS systems will be valuable to emergency preparedness as a tool that will aid in the immediacy of a collaborative response to public health emergency.

Priority Area # 3: Emergency Medical Services

During this past year, the Department, working in cooperation with a wide range of public and private EMS stakeholders, has made considerable progress in improving both EMS preparedness and response capabilities to deal with a WMD event. Progress has been made in each of the areas of planning, communications, training, equipment and protocol development. This past year's achievements along with plans for the coming year are summarized below. Particular focus will be given to the establishment of a mutual aid plan for the deployment of EMS resources. Progress in each of the other major areas will serve to support the development of a plan and system to upgrade and deploy EMS resources to respond to a WMD MCI event.

1) Needs Assessment/Information Gathering

A preliminary survey of ambulance service disaster preparedness was initiated prior to the original grant submission. Seventy-four percent of the 301 (now 308) licensed ambulance services responded to the survey, which queried the services about training, equipment and communications capabilities. The results of the survey have been summarized and will be used in developing and carrying out a more comprehensive needs assessment of EMS preparedness and response capabilities. Office of EMS (OEMS) staff attended the initial meeting with the contractor that will develop the survey instruments to provide guidance on which EMS stakeholders should be consulted. OEMS staff will continue to work with the needs assessment contractor(s) and appropriate stakeholders throughout the process of developing and carrying out the needs assessment.

The OEMS continues to make progress in its ability to obtain accurate and up to date information on licensed ambulance services and certified EMTs. The OEMS website has been redesigned and databases containing information on services/EMTs have been improved and made more accessible to the public. The OEMS is currently compiling e-mail addresses for appropriate clinical and administrative contacts in each of the 308 licensed services. This will serve to provide a timely and efficient mechanism to obtain information from services (e.g. to update needs assessment information) as well as disseminating information to them, both day-to-day and during an MCI. The Massachusetts Alert Network will also serve as a useful and timely means of communicating with ambulance services. The Department has begun the process of incorporating EMS into the network of users. Training for an initial group of key EMS personnel (i.e. OEMS and EMS Regional Council staff and C-MED personnel) is being scheduled for June with expansion to other EMS personnel, including services, taking place this coming year.

2) Mutual Aid/MCI Planning and Implementation

Critical Benchmark 3: *Develop a mutual aid plan for upgrading and deploying EMS units in jurisdictions they do not normally cover, in response to a mass casualty incident due to terrorism. This plan must ensure the capability of providing EMS coverage for at least 500 adult and pediatric patients per 1,000,000 population per day.*

The Emergency Medical Care Advisory Board's (EMCAB) MCI Committee drafted a "Standards for Local Planning" document that provides guidance to local communities in developing a local EMS plan for dealing with multiple casualty incidents (MCIs). A contractor has been hired to finalize the document, ensure that it conforms to local emergency planning and unified command guidance and prepare it for distribution to cities and towns. A PowerPoint presentation is being developed to introduce the concept of MCI planning to local officials. Recommendations for

implementation of the planning process will be developed under the contract including steps necessary to ensure coordination and consistency with regional/state MCI planning and the statewide service zone planning process. Administered by EMS Regional Councils, grants will be provided to communities and EMS services to carry out MCI planning to achieve the benchmark of caring for 500 patients per million population. This activity will be funded using HRSA FFY 2003 funding.

The MCI Committee has begun the process of developing a plan for the deployment of EMS resources in the event of an MCI that requires a regional/multi-regional or statewide response. The Committee is exploring the establishment of strike teams/task forces of EMS resources with the goal of optimizing the use of available resources and of their deployment through a unified command system. In addition to the creation of task forces and strike teams, the Committee will be examining the key components of mutual aid response that establishes the authority to deploy the resources, how best to coordinate fire-based and private EMS resources, and how those resources will be dispatched to the scene and coordinated with the unified command system functioning at the local and state levels. Existing models and mechanisms will be examined including the existing state fire mobilization plan, established to deploy fire resources.

The EMS mutual aid plan to be developed this year will strive to ensure that capacity exists to transport 500 patients/1 million population/day. How that is achieved will depend on whether the MCI is multi jurisdictional, regional or statewide. It is estimated that the 308 licensed services, operating about 1,400 ambulances, conduct about 1 million transports/year (roughly 40-50% of which are estimated to be emergency transports). In a statewide event, the capacity does not exist to transport 3,000 patients/day for any length of time without severely impacting the system or drawing on neighboring state resources. As part of the planning process, the Department will engage neighboring states in discussions about mutual aid. This has been recently done with Rhode Island counterparts in the context of reviewing the EMS response to the West Warwick, RI nightclub fire. The planning process will include representatives from rural areas and volunteer services who have been active in EMS 2000 issues and through the EMS Regional Councils. EMS-Children representatives are active in all phases of EMS and will also be included in the planning. Close coordination around planning exists already with the three MMRS's and DMAT's.

To support the implementation of the mutual aid plan, our EMS services need better real- time hospital diversion data and hospital trauma capability tracking. To accomplish these goals HRSA FFY 2003 funds will be used to improve and extend the real-time diversion tracking. Currently the system is updated several times during a day, but uses only a fixed data set of three levels of hospital status (open, limited diversion, total diversion). We plan to have a system developed that will allow more frequent (i.e. real-time) status updates, finer levels of capacity tracking, and the ability to add variables for tracking "on the fly".

The Department has also, independent of this cooperative agreement, contracted with Berry, Dunn, McNeil and Parker (BDMP), a Management Consulting firm, to evaluate the current ambulance diversion website and make recommendations on improving the system and enhancing its utility and reporting capabilities. Various options will be considered on where the system will be hosted and how best to enhance its capabilities. In addition, the contractor will develop recommendations on establishing a resource registry that will allow for the collection and dissemination of hospital and pre hospital resource information (e.g. types of beds, ambulance vehicles, etc.). The contractor has begun surveying stakeholders and system users and final recommendations will be made this summer.

3) EMS Communications

Efforts this year focused on the development of RFP and the award of a contract to carry out a thorough evaluation of the existing EMS communications system and to make recommendations on improving the system. The contract was awarded earlier this year and significant progress has been made in achieving objectives.

The contractor for the EMS communications study, RCC Consultants, Inc., has surveyed and completed site visits at each of the seven C-MED sites. The information they have collected is currently being analyzed to evaluate frequency usage, coverage and transmission quality (e.g. clarity, interference, etc.). Coverage maps have been assembled on a regional basis and will be used to identify areas where coverage is lacking on inadequate. Inventories and licensing information have been collected for all C-MEDs and base stations. FCC requirements regarding MED channel usage have also been reviewed. The analysis of this information will result in the development of a statewide frequency plan that will optimize the use of current frequencies and resources. The plan will take into account the FCC requirement that over time EMS operate on narrowband channels.

An improved EMS communications system plan will seek to optimize use of existing frequencies and equipment and identify the need for additional resources so as to maximize functionality and ensure adequate coverage while minimizing interference.

The contractor is presently assessing three options for consideration:

- Enhanced C-MED Network – This approach would have channels assigned exclusively within EMS regions based on a non-interference basis;
- Intelligent C-MED Network – This approach would allow for greater management and flexibility within the statewide system. Channels would be distributed based on loading and traffic and would allow for active management and allocation of channels;
- Multiple-Access C-MED network – This approach would rely heavily on matrix automation (i.e. assigning channels automatically) while significantly expanding capacity to allow for a greater range of regional and statewide communications.

An important area of system improvement would allow C-MEDs and hospitals to reliably communicate with one another and with other critical access points in a major MCI. The contractor is exploring the use of both existing channels as well as new low band frequencies to affect this critical functionality. Whatever options are recommended, the ability to transmit both voice and data will be key components. A radio-based system that allows for sharing of data between C-MEDs and hospitals would complement and serve as the necessary redundancy to an internet based system.

The contractor's recommendations will also address steps to improve interoperability, especially with public safety entities. The contractor's work is scheduled for completion by the end of June 2003 and a final report with recommendations delivered in July.

Massachusetts proposes to direct funding for implementation contracts pursuant to this assessment; these funds are being allocated from the CDC Cooperative Agreement, Focus Area E.

4) EMS Training/Personal Protective Equipment

This past year an EMS Subgroup was established as part of the Decontamination/Isolation/PPE workgroup to make recommendations regarding training and equipment needs for EMS personnel to respond to a WMD event. Those recommendations were finalized and presented to the larger workgroup early this year. The recommendations called for the provision of Level C personal protective equipment for EMTs and training that assured competency for ambulance-based EMTs in the areas of ICS, hazardous materials and WMD tactical issues.

Using the HRSA advance 20% FFY 2003 funding, $372,300 will be going out to the 308 EMS services in Massachusetts ($1250 average each) for PPE equipment needs. The allocation will occur through the 5 EMS regional councils to determine within each region if distribution of the equipment should be to individual services or through a regional cache system.

HRSA FFY 2002 and advance HRSA 2003 funding will be used to fund the development and presentation of incident command, PPE and decontamination training modules, and for staff to develop and present the trainings. These programs will be provided at no cost to hospitals, EMS services and other health care providers. This will be accomplished through an Interagency Service Agreement (ISA) between DPH and DFS. The HEICS (hospital emergency incident command system), and the hospital and EMS training modules currently under development will also include PPE and how to decontaminate patients. Within the scope of this proposal will be an enhanced working relationship between the DFS HAZMAT response program and the MDPH laboratory, hospital and EMS programs.

Since EMS providers may very well be immediately exposed to chemical agents we propose to use HRSA FFY 2003 funding for direct purchase of equipment and antidotes for EMS self-protection and self care. We expect that the provision of these stocks will also increase the ability of pre-hospital providers to treat victims of chemical attacks.

5) EMS Protocol Development

EMT's in Massachusetts operate under approved statewide treatment protocols. These protocols are currently being revised to address the use of nerve agent antidotes. The Department has also provided guidance to EMTs and ambulance services on a range of issues, including enhancing and reinforcing the use of personal protective measures and equipment, infectious disease control and on SARS and smallpox. Further amendments to treatment protocols and additional guidance will be provided this coming year as needed.

Priority Area #4: Linkages to Public Health Departments

Critical Benchmark #4-1: Hospital Laboratories: *Implement a hospital laboratory program that is coordinated with currently funded CDC laboratory capacity efforts, and which provides rapid and effective hospital laboratory services responding to terrorism and other public health emergencies.*

MDPH will achieve his Critical Benchmark by ensuring that hospital laboratories will have trained personnel and equipment to conduct tests and refer specimens to the State Laboratory for rapid and confirmatory testing. Electronic communication links between the State Laboratory and hospitals will be secure, effective, and robust. Initiatives to support this goal are:

- Conduct surveys to identify gaps in hospital-based and other clinical laboratory capacity
- Train laboratory personnel in methods for presumptive identification of bio-terror agents, and in appropriate packaging and shipping of specimens
- Ensure effective sentinel laboratory capability for electronic connectivity and reporting to state DPH
- Support the development of "surge" laboratory test performance sites

Building on initiatives with more than 75 sentinel laboratories (formerly Level A Clinical Labs) developed through the CDC 2002 Bioterrorism Cooperative Agreement, the MDPH will strengthen linkages between the State Laboratory Institute and the hospital-based and private clinical laboratories using funding from FFY 2003 HRSA and CDC cooperative agreements. DPH has improved terrorism preparedness and response for biological and chemical agents by providing training and establishing contact lists and information distribution systems. At least one microbiologist in 66 hospital-based laboratories has received bench training in performing screening procedures for critical agents of bioterrorism. In addition, training has been provided to laboratories for the packaging and shipping of infectious substances. This course includes International Airline Transport Association (IATA) certification to those attendees who pass the course exam. Staff and other funding from the CDC cooperative agreement will continue to support these activities.

1) Survey of Laboratory Capacity: Through our collaboration with laboratory professionals from the hospitals, we have noted based on their reports and our observations that manpower, information technology, and equipment resources available in clinical laboratory settings vary considerably. DPH proposes to conduct a comprehensive survey of sentinel laboratories to establish a baseline inventory of resources that will guide the development of strategic and implementation plans for continual improvements in clinical laboratory capacity and capability. One objective of the strategic plan will be to map affiliations and cooperative agreements among hospital laboratories and between hospital laboratories and academic health centers. This information will be critical as we begin to build relationships with clinical laboratories that enhance our mutual ability to respond to perceived or actual incidences of biologic and chemical terrorism, improve communication and build surge capacity.

2) Sentinel Laboratory Incentive Program: DPH has developed an initial enrollment process for sentinel laboratory status in the Laboratory Response Network (LRN). In order to sustain the capacity of the sentinel laboratory network, DPH will hire a Medical Technologist using the CDC 2003 Cooperative Agreement who will provide direct services of on-site consultation, regional

hospital-based training, assistance in planning, evaluation and proficiency testing of test systems, coordination of simulated exercises and liaison to the medical technology professional societies. A goal for the coming year is to enroll 80 sentinel laboratories in the Massachusetts Alert Network and the laboratory forum established for Massachusetts on Epi-X. Sentinel clinical laboratories must commit to using standard procedures to test samples for both chemical and biological agent analysis as well as suspected agents of bioterrorism; update contacts for the state laboratory 24/7 emergency information exchange; have at least one microbiologist on staff who has attended SLI bioterrorism agent identification training and packaging and shipping training, maintain competency of staff to handle chemical agent issues as requirements are established, train staff on site, with the assistance of the SLI Medical Technologist liaison and using the SLI e-learning system. In addition, the sentinel lab must maintain an Internet connection with an e-mail address available to staff.

In order to provide laboratories with support for these activities, the Department of Public Health proposes to complete letters of agreement (LOA) with the 80 clinical laboratories and provide resources to assure they can participate effectively as sentinel laboratories. The LOA will explain the requirements for participation in the LRN as a sentinel laboratory. This LOA will be incorporated as a sub-agreement within the master MDPH Hospital MOU that will be used to allocate all funds to Massachusetts acute care hospitals.

Each sentinel hospital that satisfies the guidelines for the LRN, or establishes a satisfactory plan to meet all requirements, will receive a grant of $2,000-6,000 from the FFY 2003 HRSA Cooperative Agreement to be used by the laboratory at the facility to meet and sustain expectations of the agreement. Funding will be awarded based on approval of a budget that is clearly related to bioterrorism objectives as defined in the HRSA grant or in the crosscutting issues for the HRSA and CDC agreements. The process would be subject to oversight by a cooperative working group comprised of representatives from the Department of Public Health and the hospital laboratory community.

3) Enhance Laboratory Surge Capacity: During the Anthrax incident that occurred in 2001, it was obvious that additional confirmatory laboratory surge capacity needed to be developed within Massachusetts to enable provision of BT-related laboratory services without severe disruption of other critical laboratory services. The state of Massachusetts is in an advantageous position in this respect due to the presence of modern and well-staffed hospital laboratory facilities located at geographically strategic points around the state. These laboratories are well equipped to provide assistance with testing services during times of surge. The Department of Public Health proposes to contract with up to three hospital-based clinical laboratories located strategically in the state to provide such services.

The Department proposes to spend a total of $150,000 (average $50,000 per facility) from the FFY 2003 HRSA Cooperative Agreement to assist each of the three contracted facilities with technical assistance and training, equipment, and safety upgrades as required to ensure the ability of these facilities to provide agreed upon testing services. This process for selecting the three laboratories will be based on the findings of the laboratory survey conducted in section 1) above. Funding for the three laboratories will be allocated directly to the selected hospital laboratories through the master MDPH Hospital MOU agreement process.

Future goals will include increased wet-lab training for sentinel laboratories, implementation of a State Laboratory web-based secure test request and test reporting system, which will permit 24/7 inquiry and test result reporting and an increase the number of hospital-based labs participating in the LRN at the confirmatory level

***Critical Benchmark #4-2: Surveillance and Patient Tracking*:** *Enhance the capability of rural and urban hospitals, clinics, emergency medical services systems and poison control centers to report syndromic and diagnostic data that is suggestive of terrorism to their associated local and state health departments on a 24-hour-a-day, 7-day-a-week basis.*

MDPH will achieve this Critical Benchmark by incorporating hospitals and other sites into the Alert Network and other communication networks, and by providing training on surveillance to staff at these sites.

The MDPH proposes to use resources from both the FFY 2003 CDC and HRSA Cooperative Agreements to support these initiatives. We expect to devote $150,000 from each cooperative agreement, for a total of $300,000 to support the implementation of the programs described below. This money will be distributed to the hospitals of the Commonwealth under the master MDPH MOU.

1) Active Surveillance: In October 2001, the Division of Epidemiology and Immunization initiated laboratory-based active surveillance of select invasive organisms, including possible BT agents, throughout Massachusetts. A goal of this project is to identify barriers to reporting and to minimize the delay between organism identification and public health notification. Data are forwarded to MDPH on a weekly or monthly basis in addition to existing passive surveillance reporting activities. MDPH epidemiologists have visited 73 out of 79 Massachusetts hospital laboratories to provide education in active surveillance and establish data submission protocols. MDPH plans to visit the remaining 6 hospitals over the next nine months, as well as other hospitals that request or require additional assistance. Currently, electronic data are submitted to MDPH from only 3 laboratories with an additional 23 submitting consistent prospective paper reports.

   Since data entry for paper reporting is extremely labor-intensive and disk submission is the first step toward web-based electronic laboratory reporting, in a Memorandum of Understanding (MOU) with hospitals, MDPH will provide appropriate resources for hospital laboratory information system (LIS) personnel to establish weekly or monthly disk-submission reporting systems. In addition:

   - MDPH will provide an annual forum (2nd Annual Active Surveillance Workshop/Conference) for infection control practitioners, microbiology senior staff members and information technologists to learn about surveillance activities and network with colleagues
   - IT staff at MDPH will continue to assist laboratory and LIS personnel with disk and electronic submission specifications to enhance data transfer.
   - MDPH epidemiologists will analyze and report data to hospital participants through the *Active Surveillance Quarterly* (project newsletter).
   - MDPH epidemiologists will be responsible for arranging site visits with laboratories, and describing all aspects of the active surveillance project to appropriate hospital personnel.
   - Disk submission specifications will be generated by the Department's IT staff and disseminated to hospital LIS and microbiology personnel.
   - The MOU will be developed with appropriate MDPH agencies to address many aspects of emergency preparedness, only one of which will be the facilitation of the integration of hospital-based data into state level surveillance systems.

2) Massachusetts Alert Network: Incorporate hospitals and other sites into the Alert Network and other communication networks.

3) Expansion of Emergency Department Surveillance Program: Efforts are underway to expand Emergency Department surveillance to additional hospitals outside the city of Boston. This program seeks to detect possible BT events by tracking hospital emergency department utilization and flagging any unexpected spikes in volume. Boston has instituted this program in 11 facilities as well as tracking EMS call volume, and funding was provided from the CDC cooperative agreement last year to the Cambridge Department of Public Health to add 5 additional sites. Planning for this year is to add 9 additional hospitals north and south of Boston. Future plans include 100% hospital participation statewide.

   All health care loci will be able to recognize and report patterns of illness suggestive of bioterrorism or other mass-casualty or terrorist related events. Automated surveillance systems will be in place to screen and provide early warning of such events. Communication networks will be in place for bi-directional and multi-directional information flow.

Future goals include the development of a statewide automated volume-based or syndrome-based surveillance system.

Priority Area #5 – Education and Preparedness Training

Over the past grant year, a strong partnership has been formed between the CDC Focus Area G Coordinator and the HRSA Cooperative Agreement Medical Director and Hospital Preparedness Coordinator, who have worked collaboratively on many of the items described below.

A statewide Education and Training Workgroup was formed in August 2002 and has been meeting on a monthly basis. This workgroup has been assisting the MDPH in the conceptualization, planning and coordination of a needs assessment, and subsequent development and implementation of educational/training activities as they apply to Focus Area G and where there is overlap with other Focus Areas, and with the HRSA Cooperative Agreement. Membership consists of healthcare providers, first responders, academia, public health, and community agencies.

A subgroup, dedicated to curriculum development, formed out of the workgroup mentioned above. This subgroup began meeting in November 2002 with membership also consisting of health care providers. Its mission is: to fortify the public health infrastructure in Massachusetts relative to bioterrorism and emergency preparedness through the delivery of appropriate training programs and coordination of educational services across a broad spectrum or public, quasi public, and private organizations. The subgroup has created a competency-based curriculum structure using appropriate competency models. It has also produced a number of deliverables, including the *Summary Report of Training Programs* and the *Gap Report* to help identify training needs. The subgroup has also produced a *Training Catalogue* for the target audience. In the months ahead, the Committee will continue to identify existing resources and training programs, offer reporting "tools" and guidance to course developers, identify or develop necessary training, and establish evaluation tools and criteria for quality training programs.

MDPH has subscribed into the Public Health Foundation's learning management system called "TrainingFinder Real-time Affiliate Integrated Network" (TRAIN). The implementation of this system will be a major step towards meeting Critical Capacity #16 in Focus Area G. The target date for initial roll out in Massachusetts is July 2003.

In addition to infectious disease surveillance and reporting, emergency preparedness and incident command has been prioritized as training topics for MDPH staff as well as health care providers. A one-hour emergency preparedness training has been developed for MDPH staff with a focus on the state public health role in responding to a bioterrorism event. The content is currently in final review and should be ready to implement in the late summer/fall of 2003. In the last progress year, over 1000 hospital-based physicians and nurses have been trained in bioterrorism agents, emergency response and disaster planning through grand rounds, residency lectures and tabletop exercises. Locally based evaluations have indicated that these health care providers request more hands-on training in incident command, decontamination and use of PPE. Further, exercises have been very valuable in building links between hospital-based health care, public health, first responders and community agencies.

The MDPH Division of Epidemiology and Immunization has a speakers' bureau and the Division's medical directors give frequent health care provider grand rounds presentations. Targeted mailings have been distributed to health care providers and include recently published information regarding diagnosis and treatment of infectious diseases as well as information about reporting to the state health department. With the recent promulgation of *105 CMR 300.000:*

Reportable Diseases and Isolation and Quarantine Requirements and mailing of this information to health care providers, follow up question and answer seminars and trainings will be conducted to teach health care providers about their role in the state's infectious disease surveillance system. The MDPH website is utilized to post pertinent information for health care providers. Seminars and conferences directed at health care providers have been given. Collaborations are being strengthened with professional associations such as Massachusetts Medical Society, Massachusetts Infectious Disease Society and the Massachusetts Hospital Association to include topics on diagnosis, treatment and reporting of infectious diseases as well as emergency preparedness and incident command.

A partnership has formed with MDPH and the Harvard Center for Public Health Preparedness (H-CPHP). The first collaborative education and training project is a locally developed and locally led satellite broadcast to be aired on July 8, 2003 on emergency preparedness and incident command. It will be down linked in 17 sites throughout Massachusetts, and an exercise on a suspect case of plague will be facilitated at each location. The audience is healthcare providers, local health department staff, first responders, infection control practitioners, school administrators, school nurses, public health nurses in public and private agencies, and others. This is the first of two broadcasts to be held in 2003.

MDPH and MHA worked together to sponsor a full day educational session for acute care hospitals with emergency departments on January 28, 2003. The session was well received and also served to assist in formalizing the hospital regional planning efforts in Massachusetts. Breakout sessions occurred in the afternoon that were facilitated by MDPH/MHA staff that help each region focus on emergency preparedness activities that need to addressed at the local level. Since this January 28, 2003 session MDPH has been able to measure the success of this session as all regions have been meeting on a regular basis to continue to work on hospital regional planning activities. MDPH and MHA staff have been attending these regional hospital planning meetings to support the regional planning process.

MDPH staff (the HRSA PI, Medical Director, Hospital Preparedness Coordinator and a Laboratorian from the MDPH State Lab Institute working on the CDC agreement) attended a "Hospital Leadership and Administrative Decision–Making in Response to WMD Incidents" course offered by the US Public Health Service at the Noble Training Center in Anniston, Alabama April 7-10, 2003. This course allowed attendees to learn by doing through the use of functional realistic and technically correct scenario-based exercises. The exercises were supported by challenging and dynamic discussions that are current and constantly evolving standards, protocols and procedures. In follow-up to this session the HRSA staff decided that they would like to send teams of hospital staff in the state to this training. This summer Massachusetts will start by sending hospital teams down to Alabama for the same training. These regional teams are currently being registered.

Other hospital and EMS first responder training currently under development includes a 4-hour HEICS/ICS course for hospital staff and EMS. Additionally a two-day and a three-day course on Decontamination and Personal Protective Equipment (PPE) are nearly complete. Further details can be found in narratives provided in Priority Areas 2 (Critical Benchmarks 2-6 and 2-7) and Priority Area 3 – EMS. These training programs will be rolled out early this summer. Staff proficiency and competency following trainings will be assessed through participation in regional exercises that will occur during this upcoming funding year.

During the next grant year, MDPH will: 1) continue to develop and build collaborations and partnerships formed during the past year by continuing to meet with representatives from schools of public health to discuss more specifically how each entity can contribute to education and training; 2) expand these meetings to include schools of medicine and other academic medical centers; 3) identify priority preparedness training from the statewide needs assessment and other needs assessment, and with input from the 10 statewide Workgroups; 3) identify competency-based trainings/curriculums and exercises/drills and other resources already established; 4) identify gaps in training curriculums; 5) provide guidance and offer tools to course developers from other agencies and organizations using established competencies as a foundation; 6) implement more 'real life' exercises and drills; 7) establish evaluation tools and criteria for quality training programs and exercises/drills; and 8) provide education/training and promotion about TRAIN so that relevant associations and agencies can contribute to the learning management system.

In summary, under the HRSA FFY 2003 Cooperative agreement we have proposed education and training funding for:

- Direct support of continuation the Fire Academy PPE/Decontamination and HEICS training programs for hospital and EMS providers,
- Support to academic partners for dissemination of curricula materials
- Support for development of an "extender" curriculum for dentists or other non-traditional professionals to provide disaster medical care
- Support Special Populations educational materials for mental health/substance abuse on psychosocial consequences as well as children and adults with disabilities

Priority Area #6: Terrorism Preparedness Exercises

The work plan submitted in this grant application will be tested to ensure its practicability. The MDPH's terrorism preparedness exercise plan will take into consideration the issues identified in the Year 1 progress report (such as the need to test plans concerning local and regional pharmaceutical caches), as well as the results of the needs assessment. Funding for exercise planning and execution is being pooled from the HRSA and CDC FFY 2003 Cooperative Agreements.

A series of table top exercises incorporating a bioterrorism scenario will be conducted for each of the seven emergency preparedness regions (regions 4a and 4b would be involved in the same exercise). Exercises will be designed to incorporate all entities that will be key resources during a bioterrorism event. These entities include MDPH, local boards of health, local fire, police and EMS, local and state emergency management, local (if available) and state HazMat, area hospitals, media and other public health interests.

Once the tabletop exercises have been conducted, a statewide bioterrorism drill will be held involving all regions and jurisdictions. This exercise will be designed to be similar to the Chicago-area TopOff exercise. This drill will test the statewide emergency response system, and involve all levels (local, state, and federal) of government and will incorporate all jurisdictions of emergency response.

MDPH will contract out the design and implementation of both the regional table top exercises and the statewide drill. The contractor will develop scenarios and set of objectives for the table tops and drill and coordinate logistics, ensuring all key players participate. The contractor will be expected to conduct after-action discussion and submit to MDPH a written after-action report incorporating suggestions for improvement and outlining lessons learned.

Under the CDC Cooperative Agreement, an MDPH liaison to the Massachusetts Emergency Management Agency (MEMA) was hired. This person will be the primary staff member who will write the RFR, coordinate the review of bids and the selection of a contractor, and oversee the programmatic aspects of the contract.

Once table tops and drill are conducted, after-actions reports and changes to emergency preparedness and response plans will be made to reflect lessons learned. MDPH may consider contracting with a firm to provide independent verification and validation of the project, or to conduct an evaluation of the program. In lieu of actual incidents requiring activation of the response system, these strategies will be designed to identify operational strengths and opportunities for improvement.

Critical Benchmark #6: *As part of a written evaluation strategy of the awardee's program, conduct at least one bioterrorism disaster exercise in the jurisdiction during FY 2003 that covers a large-scale epidemic scenario affecting both adults and children.*

In October 2003, The Northeast Branch, American Society for Microbiology will bring the membership of the Northeast, Connecticut Valley and Eastern New York Branches to the 38th Annual Regional Meeting of the American Society for Microbiology in Boston.

On October 31, 2003 the meeting will address the challenges of coordinating a strategic response to a specific bioterrorist event through a tabletop exercise featuring a panel of distinguished experts in medicine, public health, public safety, government and biodefense strategy, practice and science. The exercise will be co-sponsored by the Massachusetts and Pennsylvania Departments of Public Health, the Harvard Center for Public Health Preparedness, the National Laboratory Training Network and the American Society for Microbiology.

The biological disaster exercise will be of sufficient intensity to challenge the community's management and response operations during the exercise, in a way similar to what would be expected during an actual biological terrorist incident. An after-action report will be sent to the project officer, Mr. Wilmer Alvarez, and will include an evaluation component that captures strengths and weaknesses in a way that promotes system improvement.

Other terrorism disaster exercises that cover large-scale chemical, radiological and explosive scenarios will be conducted within the context of the terrorism exercise project detailed above. MDPH will contract with a vendor to ensure that both tabletop and full-scale exercises are carried out regionally to test multi-agency response protocols.

HRSA PART C – BUDGET

See the attached Appendix C Template

HRSA PART D – TIMELINE

See attached HRSA timeline for FFY 2003.

NOTE: The narrative for each HRSA Priority Planning Area and respective Critical Benchmark indicate which activities are being funded with HRSA cooperative agreement funds, and which are being funded with CDC cooperative agreement funds. MDPH holds monthly meetings with senior staff to discuss the overall coordination of the HRSA and CDC cooperative agreements to ensure that there is no overlap between HRSA and CDC activities.